

**R E M A R K S**

Claims 32 to 56 are now in this application.

The specification has been amended to clarify that "ECODISC" is a trademark registered to KONE of Finland. Other minor editorial changes have also been made.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

Regarding the claim rejections under 35 U.S.C. 112, second paragraph, this rejection should be overcome by new claims 32 to 56 submitted herewith.

**Regarding Claim 24 Rejections under 35 USC §102**

The differences between the claimed invention and the Haahtikivi reference will be explained in connection with the Section 103 rebuttal hereinafter.

Compared with Kobayashi, the claimed invention has the structural differences, as follows.

Firstly, in the mounting position of the winding apparatus, the winding apparatus of the claimed invention is installed on an installation member fixed can upper portions of the counterweight guide rails, but the driving mechanism 2, 2A, 2B or 2C of Kobayashi, corresponding to the winding apparatus of the claimed invention is accommodated in the clearance defined between the side

wall 3a of the elevator path 3 and tile space being occupied by the car a in the process of moving upward and downward (see Fig. 3 and column 9, lines 43-50, Figs. 15 and 16), for example, being mounted on one or both of the elevator car guide rails as in Figs. 3-13 or arranged in the pit 3c of the elevator path 3 (see Fig. 15, column 9, lines 16-18).

Secondly, Kobayashi does not show nor suggest any element corresponding to the installation member as in the claimed invention, which reinforces the guide rails and provides an installation place for the winding apparatus.

On the contrary, in Kobayashi an installation member cannot be fixed on the upper portions of the counterweight guide rails 10a, 10b as shown in Fig. 3, which excludes the structural advantage obtained thereby compared with the claimed invention.

Therefore, the present invention differs over the Kobayashi reference in many respects, and Haahtikivi as explained hereinafter.

**Regarding Claim (1, 3, 6, 7, 13, 25 and 26) Rejections under 35 USC**

**§103**

The object of the present invention is to provide an elevator system without a machine room which is capable of enhancing an adaptability of a design and installation and a durability with

respect to a counterweight load and vibration by installing a thin type winding apparatus in the interior of a hoistway for thereby removing the need for a machine room which is installed in the conventional art.

And according to the claimed invention, the counterweight guide rails are shorter than the elevator car guide rails, so that the upper portions of the counterweight guide rails 5 are made to be lower than the upper portion of the elevator car 1 at a highest floor of the hoistway, and accordingly the counterweight 3 moves up lower than the upper portion of the elevator car 1 at a highest floor of the hoistway, so that a space is obtained above the counterweight guide rails and this makes it possible for the winding apparatus 10 to be installed on an installation member 6 fixed on upper portions of the counterweight guide rails 5.

But, the object of Haahtikivi differing from the present invention, is to increase the transportation capacity of the elevator in relation to the shaft volume and to eliminate or at least to reduce the counterweight bound referred to above.

And according to Haahtikivi, the upper portions of the counterweight guide rails 7 are extended higher than the upper portion of the elevator car 2 at a highest floor, and the counterweight 3 moves up higher than the upper portion of the

elevator car 2 (see Figs. 3 and 4) and the exact position of the winding apparatus is not shown.

Therefore, the claimed invention distinguishes over Haahtikivi in the arrangement of the counterweight guide rails and the winding apparatus, etc, in addition to overcoming the problems as described in the description of the instant application on page 4, line 21 to page 5, line 22.

Lane also fails to teach that the upper portions of the counterweight guide rails 5 are lower than the upper portion of the elevator car 1 at a highest floor of the hoistway, and accordingly the counterweight 3 moves up lower than the upper portion of the elevator car 1 at a highest floor of the hoistway, enabling the winding apparatus 10 to be installed on an installation member 6 fixed on upper portions of the counterweight guide rails 5, which is one of the significantly advantageous technical features of the present invention.

Consequently, the claimed invention is neither anticipated nor obvious from the combined teachings of Haahtikivi or Lane, or the combination thereof.

For the foregoing reasons, reconsideration of the objections and rejections of record is respectfully requested, and an early notice of allowance is earnestly solicited.

**Conclusion**

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

In the event there are any matters remaining in this application, the Examiner is invited to contact Mr. Joseph A. Kolasch, Registration No. 22,463 at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. 1.17 and 1.136(a), the Applicant respectfully petitions for a two (2) month extension of time for filing a response in connection with the present application and the required fee of \$400.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,  
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By 

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Attachment: Version with Markings to Show Changes Made



VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The paragraph beginning on page 9, line 1, has been amended as follows:

The above-described disk type winding apparatus is a thin type capable of adapting the principle and type of a known motor and has ~~a product name of an echo disk~~a trademarked name of ECODISC (KONE Corporation, Finland). In the elevator system without a machine room, a machine room is installed on the top of the building, so that more fabrication cost is needed, and the external appearance of the building is very important. In the above-described U.S. Patents, a new elevator structure without a machine room and a new wire rope arrangement are disclosed.

The paragraph beginning on page 15, line 13, has been amended as follows:

The counterweight guide rails 5 preferably have a shorter length compared to that of the elevator car guide rail 4. More preferably, the lengths of the counterweight guide rails 5 are shorter ~~than~~by the overall length H of the elevator car 1.

The paragraph beginning on page 16, line 7, has been amended as follows:

As the built-in type winding apparatus 10, ~~an echo disk type winding apparatus~~a winding apparatus having a thin thickness such as an ECODISC may be used. Any thin

type winding apparatus which may be installed in the interior of the hoistway 2 may be adapted.

The paragraph beginning on page 23, line 13, has been amended as follows:

In addition, in the conventional art, since the machine room is installed outside a building, an external appearance of the building is bad. However, in the present invention, it is possible to enhance an external appearance of the building by removing the machine room and thereby broadening a design choice range of the building.

The paragraph beginning on page 23, line 15, has been amended as follows:

In the present invention, the machine room is removed. In the case that there is a building height limit in a certain region, it is possible to build a building without having a height increased by the height of the machine room.

The paragraph beginning on page 23, line 17, has been amended as follows:

Since the built-in winding apparatus like the ~~eehe~~ disk-winding apparatus having a thin thickness such as an ECODISC is used, the elevator system is light compared to the conventional elevator using the typical winding apparatus formed of a deceleration motor and a sheave engaged to the shaft of the same. In addition, a smaller

installation space is used, and the fabrication cost and maintenance cost are significantly decreased.

**In the Claims:**

Claims 32 to 57 have been added.